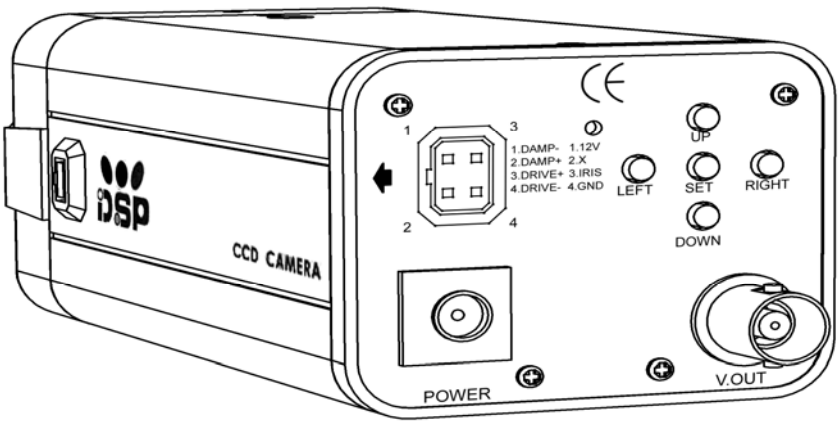
SERVICE MANUAL

1/3” SONY DSP COLOR CCD CAMERA

O.S.D. (ON SCREEN DISPLAY) SERIES



The serial number of this product may be found on the bottom of the unit.
You should note the serial number of this unit in the space provided and retain this instruction as a permanent record of your purchase to aid identification in the event of theft.

Model No. _____

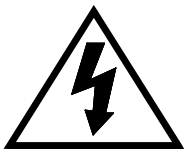
Serial No. _____

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK), NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is interned to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

▲ Before attempting to connect this product, please read and keep this manual for future use.

Safety Warning

1. Do not open the cover, it may cause electric shock.
   Ask a qualified service person for maintenance when you encounter any problems.
2. Install the camera away from TV, radio transmitter, magnet, electric motor, transformer, audio speakers because the magnetic fields generated from above devices will distort the video image.
3. Place this camera on a solid base. Install the camera away from stoves or other heat generating devices as the high temperature could cause deformation, discoloration or other damages to the camera.

Install the camera at where the temperature range does not exceed 0°C to 50°C (32°F to 122°F)

4. Do not expose and operate the camera in the rain and humid areas.
5. Use only soft dry cloth to clean the camera. Also use lens tissue or cotton tipped applicator and ethanol to clean the CCD sensor and camera lens.
6. When the camera is not in use, put the cover cap on the lens mount. Please do not touch the surface of CCD by bare hand.

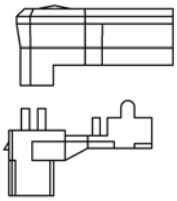
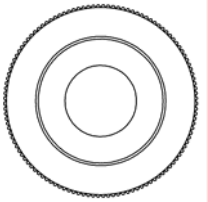
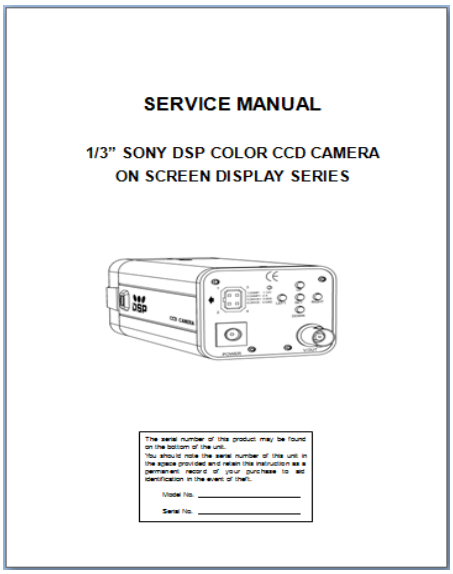
Introduction

This OSD series CCD camera introduces a new level of high picture quality through the digital signal processing LSI's technology for advanced video surveillance. It provides the most reliable and accurate color picture in security industries.

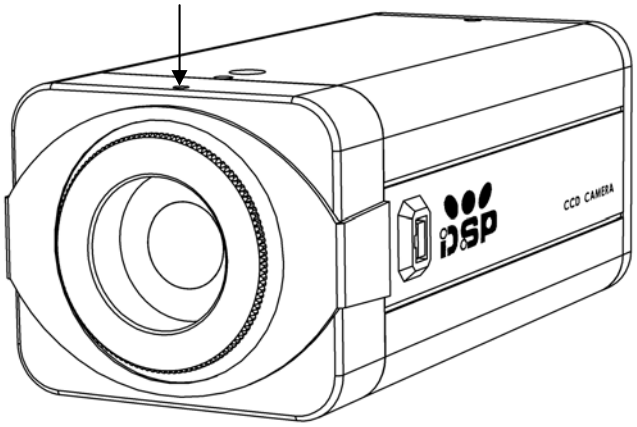
Main Features

- Color camera with SONY 1/3" Super HAD CCD sensor in metal case.
- Employs Digital Signal Processor (DSP) chip-set for image control.
- Controlled by OSD Menu, The camera can be controlled by a selection menu displayed on the monitor screen.
- Additional Functions, motion detection, mirror, sharpness.
- Day and night function selects the mode according to light conditions.
- High sensitivity, CCD enables a clear image even in 0.1Lux.
- Video drive lens or DC drive lens can be selected. Supports both C and CS mount lens
- The PRIVACY function enables you to select areas that will be masked during monitoring.

Parts Names & Components

Hex Screwdriver
Auto Iris Plug

C-Mount Ring

Manual


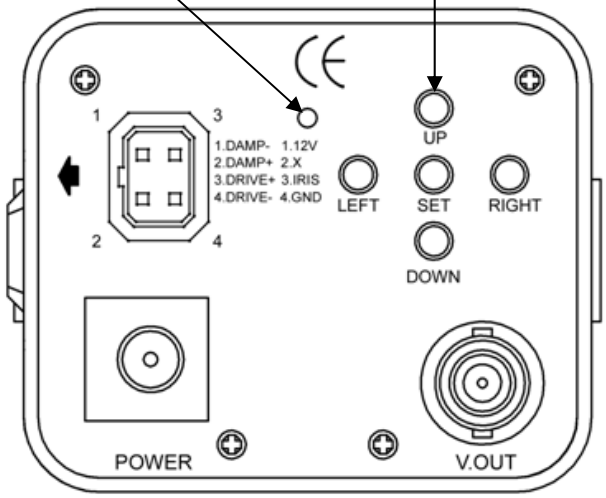
Hole to fix lens



Auto iris connector

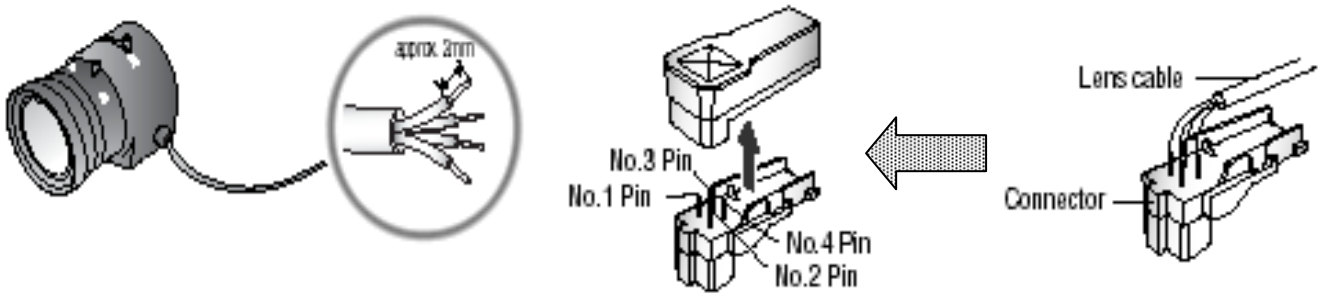
Power LED

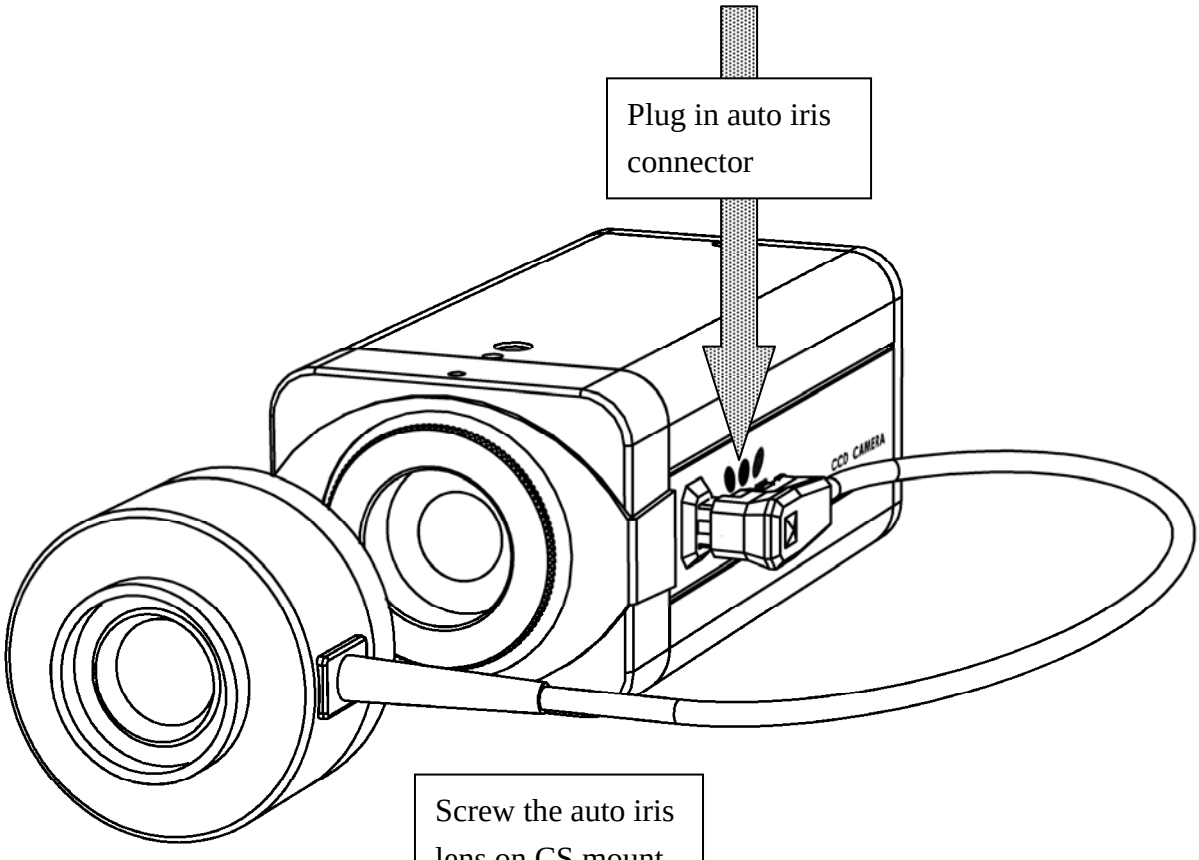
Selection & setting buttons



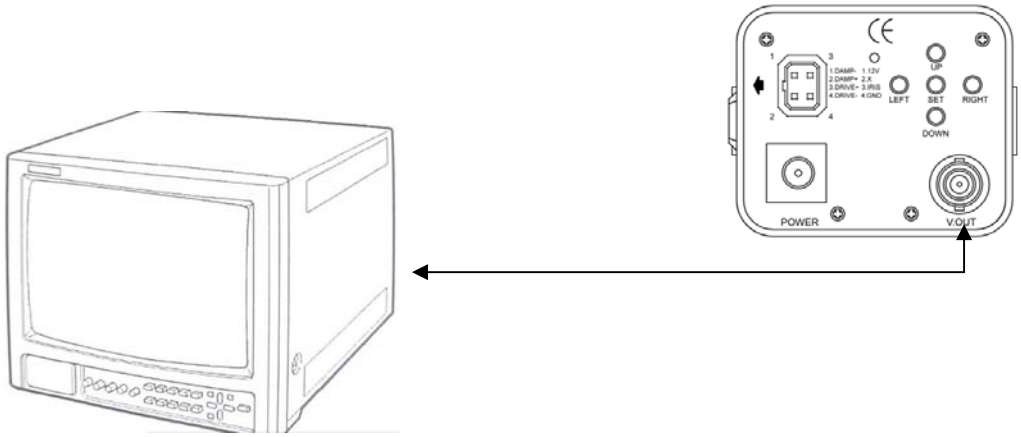
Auto Iris Function

	DC DRIVE	VIDEO DRIVE
Pin 1 (Red)	Drive -	Volt +
Pin 2 (N.C)	Drive +	N.C
Pin 3 (White)	Damp +	IRIS
Pin 4 (Black)	Damp -	GND





Installation Instructions



(1) Remove the cap from the lens mount.

(2) Select the C mount lens (with mount ring) or CS mount lens.

(3) Screw and fasten the lens into the lens mount.

(4) Connect the video output wire between monitor and camera through 75ohm type coaxial cable.

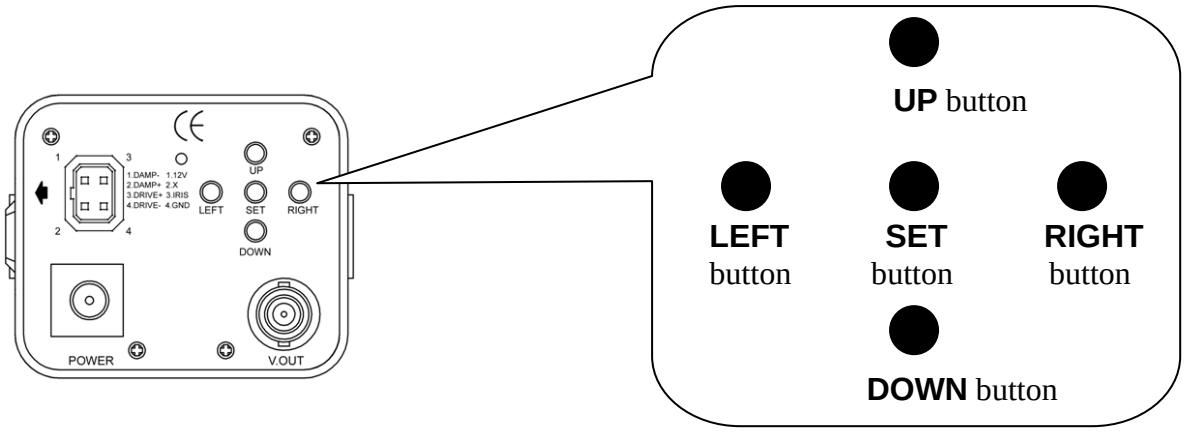
(5) Connect the power cord input.

(6) When monitor shows the picture, please adjust the focus and iris of the lens to obtain the best image according to the following procedures:

- Choose objects at a distance about 5 ~ 10 meter away.
- Loosen the mount lens fixing screw (use L wrench), if necessary.
- Turn the lens and the mount together until image is clear.
- Screw the mount to camera.

(7) Fix camera to the bracket, if necessary.

Switch Definition



SET button

Press to display the menu. In the menu, this button functions as “ENTER”.

UP & DOWN buttons

Press to select the item of menu.

LEFT & RIGHT buttons

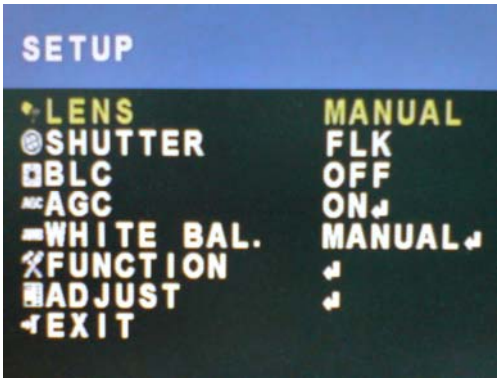
Press to change the item value.

MAIN MENU

SETUP main menu				
LENS (selection)	● Manual	● VIDEO	● DC	
SHUTTER (condition and speed control)	● Fixed	● Manual	● FLK	
BLC(Backlight Compensation)	● Off	● On		
AGC (Auto Gain Control)	● On	● Off		
WHITE BALANCE control	● ATW	● AWB	● Fixed	● Manual
FUNCTION				
ADJUST				
EXIT				

Menu Operation

- Press the SET button to display the menu on screen.



- Press the UP or DOWN button to select the item.
- The selected item will be displayed in yellow text.
- Press the LEFT or RIGHT button to change mode.
- The ENTER symbol ↵ means there is a sub-menu. Press the SET button to enter to the sub-menu.
- Select the EXIT item and press the SET button to finish setting.

✪ LENS

To select the lens mode depending on the lens used:

- **MANUAL** When manual iris lens is used.
- **DC** When auto iris lens that requires a DC drive signal is used.
- **VIDEO** When auto iris lens that requires a video drive signal is used.

✪ SHUTTER

To change the shutter setting and speed based on the environment.

- **FLK** Select when flickering occurs on the screen due to an imbalance between illumination and frequency. Under this mode, the shutter speed is NTSC: 1/100; PAL: 1/120
- **FIXED↵** Immobile control of the shutter speed can be achieved.
- **MANUAL↵** The shutter speed can be controlled manually.
- **AUTO↵** After an immobile brightness value is set, the shutter speed will adjust automatically to achieve the value.

✪ BLC (Backlight Compensation)

When there is strong backlight behind the object, enable this function to achieve a clear image of the background as well as the object.

- **ON↵** To enable this function.
  - -- BLC Area: User defines which zone to enable.
  - -- BLC Ratio: Set between 0 and 63. When the value is bigger, the compensation to the BLC area will be more.
- **OFF** To disable this function.

✪ **AGC (Auto Gain Control)↵**

Enable this function to heighten the brightness signal automatically. The effective value is between 0 and 255 (0dB ~ 40dB).

<<ATTENTION>> Bigger value, more noise.

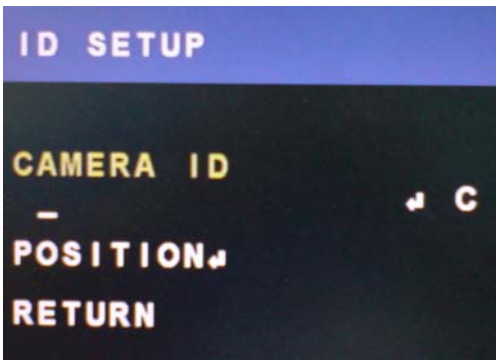
✪ **WHITE BAL.↵**

To change the white balance mode:

- **ATW** Auto Tracking White Balance. The white balance will adjust continually according to the color temperature of the object. The rage of color temperature is 1,800°K~10,500°K.
- **AWB** Auto White Balance Control. The white is correct in any condition. (To adjust the white balance, focus the camera to white paper and press SET button to obtain the optimum state under current illumination. If the environment including the light source is changed, the white balance has to be adjusted again).
- **FIXED↵** Four modes are available for selection by user.
- **MANUAL↵** The manual adjustment mode enables finer adjustment of ATW and AWB. Please select ATW mode or AWB mode first and change to MANUAL mode. Set the appropriate color temperature and then increase or decrease the red and blue color values while monitoring the color changes on the object.

✪ **FUNCTION↵**

- **RETURN** To save the option and return to the SETUP menu.
- **CAMERA ID↵**



1. Please move the cursor to the letter you wish to choose by using the UP and DOWN buttons.

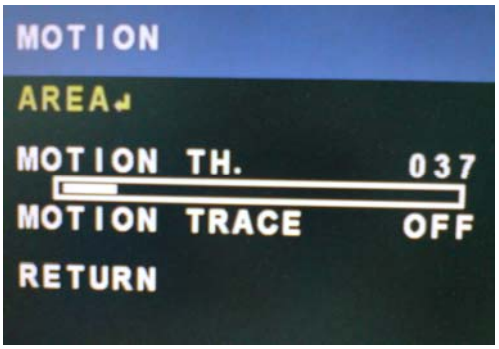
2. Select an ID from A~Z, a~ z, 0, 1~9 by using the UP, DOWN, LEFT and RIGHT buttons.
3. Move the cursor to “C” to clear the letter.
4. Please lock in the letter by using the SET button.
5. Please repeat the above to input the ID, up to 15 letters.
6. When a name has been chosen, select a position on the screen for the name to display. Move the cursor to↵ and press the SET button.
7. Select “RETURN” and press the SET button to complete ID input.

- **MIRROR** Select “ON” for mirror image or “OFF” for normal image.
- **DAY NIGHT**

-- COLOR: Common mode, the default setting.
-- AUTO: Automatically changes between color mode under bright light environment and B/W mode under low light environment. Set the value of “DELAY”, “START LEVEL” and “END LEVEL” to define the changing time.
-- B/W: Stay in B/W mode for clear and the better visibility image under low light environment.

<<ATTENTION>> This function works with AGC.

- **MOTION** When the object on screen is moving, the camera will detect the changes and display a warning on screen.



-- OFF: Not active.
-- ON↵: Any motion in the selected areas is observed.
1. AREA:
There are 64 areas. Adjust the size of zone by pressing UP, DOWN, LEFT, RIGHT and SET buttons.
2. MOTION TH.:
Higher sensitivity when the value is bigger
3. MOTION TRACE:
Shows the location where the motion was detected.

- **PRIVACY** Cover the areas you do not wish to appear on screen.
  -- ON↵: Enable the PRIVACY mode. Using the UP, DOWN, LEFT, RIGHT buttons to adjust the size and color of the four zones or clean the selected zones.
  -- OFF: Disable the PRIVACY mode.
- **GAMMA** Adjustable value between 0.05 and 1.00.
- **LANGUAGE**
  Supports English, T.Chinese, S.Chinese, Japanese, Korean
- **RESET** Return to the default settings.

✪ **ADJUST**

Depending on the environment, adjust CONTRAST, SHAPRNESS, CB_GAIN and CR_GAIN for clearer and more colorful image.

Specification

PICK-UP DEVICE	Sony 1/3" Super HAD Normal Resolution CCD	Sony 1/3" Super HAD High Resolution CCD
SIGNAL PROCESSOR	D.S.P. (Digital Signal Processor)	
RESOLUTION	420 TV Lines	520 TV Lines
MIN. ILLUMINATION	0.05Lux / F1.2	0.1Lux / F1.2
S/N RATIO	More than 50 dB	
POWER SUPPLY	DC12V; AC24V; AC110V; AC230V; AC90~260V Switching; DC12V/AC24V Dual Power	
GAMMA CORRECTION	0.45 (0.05~1.0 Adjustable)	
CONTROL	O.S.D. (On Screen Display)	
LANGUAGE	English, T.Chinese, S.Chinese, Japanese, Korean	
WHITE BALANCE	ATW (1,800°K~10,500°K)	
LENS MOUNT	C / CS Mount	
AUTO IRIS CONTROL	Video Drive Auto Iris Lens & DC Drive Auto Iris Lens	
AUTO ELECTRONIC SHUTTER	1/60; 1/100; 1/250; 1/500; 1/2,000; 1/5,000; 1/10,000; 1/100,000 (Fixed) Auto / Manual 0 ~ 255 Sections / AES / FLK Mode	
BASIC FUNCTION	Lens Selection (DC / VD / Manual) Shutter Selection (Auto / Fixed / Manual / FLK) ATW / AWB / Manual Selection BLC (Area / Ratio Adjustable) Selection AGC (0~40dB Adjustable) Selection Adjust Contrast / Sharpness / CB_Gain / CR_Gain	
EXTEND FUNCTION	Camera ID ON / OFF Motion Detection ON / OFF (64 Area, Position / Size / Sensitivity) Privacy Zone ON / OFF (4 Zone, Position / Size / Tone) Day & Night (Electronic Conversion) Mirror ON / OFF Reset to Default	
VIDEO OUTPUT	1 Vp-p Composite Video / 75 ohm Load	
POWER CONSUMPTION	3.5W (Max.)	
OPERATING TEMP.	-10°C~50°C (14°F~122°F)	